

# Multiple sclerosis presenting as acute disseminated encephalomyelitis

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## Abstract

This is a case report of a woman who presented with acute disseminated encephalomyelitis and subsequently had relapses compatible with the diagnosis of multiple sclerosis. © 1998 Elsevier Science B.V. All rights reserved.

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## 1. Introduction

Acute disseminated encephalomyelitis and multiple sclerosis may represent different manifestations of the same pathologic process [1–3]. We report a case of multiple sclerosis which showed symptoms of acute disseminated encephalomyelitis at the first attack but fulfilled the diagnostic criteria [4] of multiple sclerosis later.

## 2. Case report

The patient is a 31-year-old woman who was admitted to our hospital three times. At the age of 27, she presented fever of 38.5°C acutely, convulsion, disturbance of consciousness and urinary incontinence and was admitted for the first time. Her past history and family history were unremarkable. At that time, stiff neck, Kernig's sign, and right hemiparesis were present. Blood examinations revealed white blood cell count 10 000/ $\mu$ l, CRP 4.7 mg/dl, erythrocyte sedimentation rate 22 mm/h, glucose 72 mg/dl, sodium 139 mEq/l, anti-nuclear antibody negative and lactic acid 10.6 mg/dl. Cerebrospinal fluid examination showed cell count 210 (mononuclear cells 117, polymorphonuclear cells 93)/ $\mu$ l, protein 137 mg/dl, glucose 68 mg/dl, myelin basic protein 16.5 ng/ml and oligoclonal IgG band negative. Infectious screen tests including blood

culture, cerebrospinal fluid culture, cryptococcus antigen, and chest X-rays were all negative. Magnetic resonance imaging of the head showed high-intensity lesions in the white matter of the left cerebellar hemisphere, left frontal lobe and bilateral parieto-occipital areas (Fig. 1). Electroencephalogram showed diffuse slow waves. The tentative diagnosis of acute disseminated encephalomyelitis was made and steroid pulse therapy was effective. At the age of 28, she had left retrobulbar neuritis and was admitted for the second time. Steroid pulse therapy was effective. At the age of 29, she presented left hemiparesis and slight disturbance of consciousness and was admitted for the third time. Cerebrospinal fluid examination showed cell count 15/ $\mu$ l, protein 17 mg/dl, glucose 69 mg/dl, and myelin basic protein negative. Steroid pulse therapy was effective. She fulfilled the diagnostic criteria of multiple sclerosis [4].

## 3. Discussion

The total course of the present case showed three episodes and multiple lesions and fulfilled the diagnostic criteria of multiple sclerosis [4]. At the time of first admission, the symptoms and laboratory examinations suggested acute disseminated encephalomyelitis rather than multiple sclerosis.

Acute disseminated encephalomyelitis is usually a

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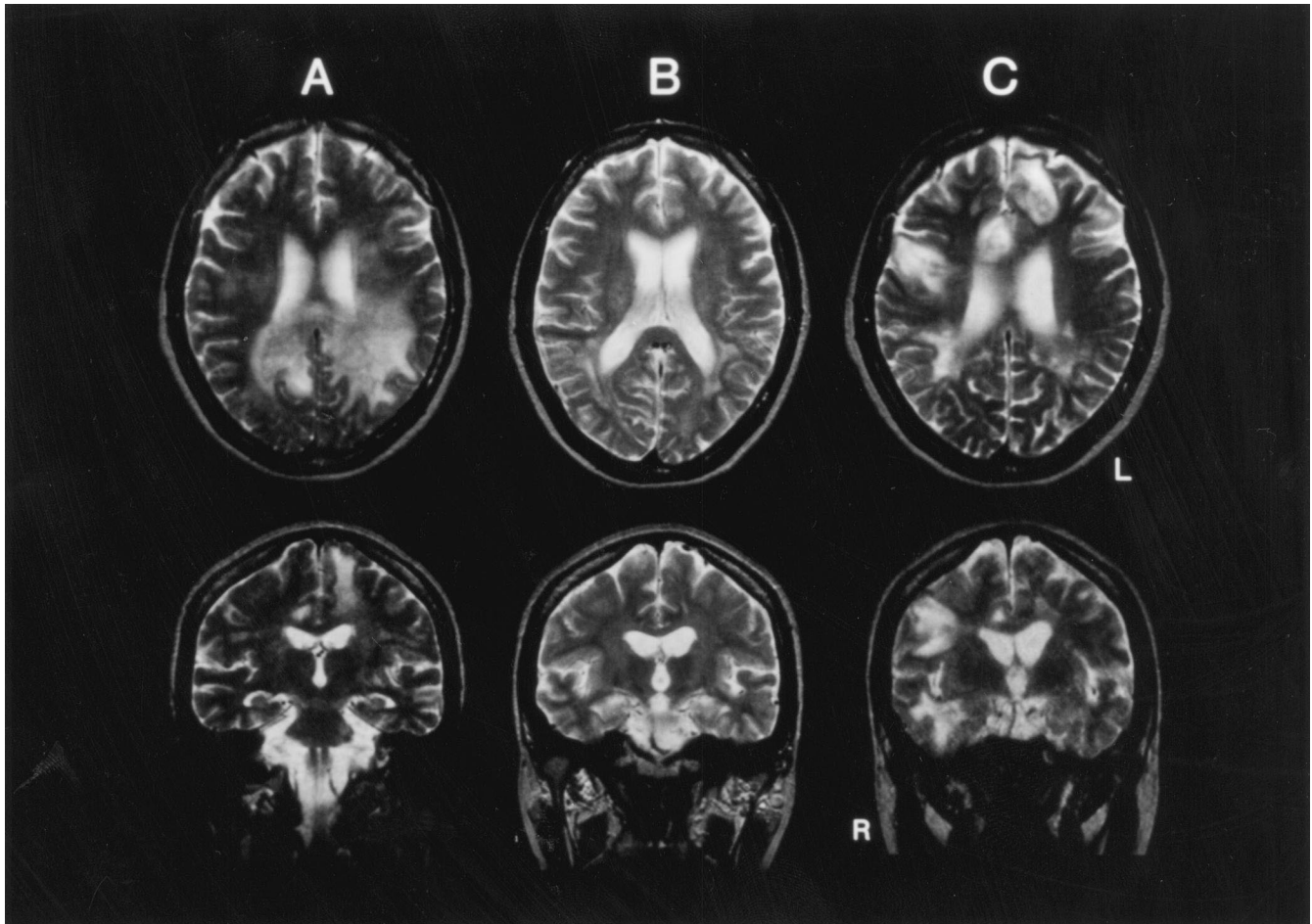


Fig. 1. T<sub>2</sub>-weighted images of serial magnetic resonance imaging of the head. Upper column, axial section; lower column, coronal section. A, July 5, 1993; B, November 21, 1993; C, August 10, 1994.

monophasic illness and multiple sclerosis is by definition a multiphasic disease [5]. Acute disseminated encephalomyelitis may be multiphasic and multiphasic disseminated encephalomyelitis [6,7] or relapsing acute disseminated encephalomyelitis [8] have been reported. Although there are some differences between acute disseminated encephalomyelitis and multiple sclerosis [9], acute disseminated encephalomyelitis and multiple sclerosis may represent different manifestations of the same pathologic process [1,10].

The present case is considered to be multiple sclerosis which presents as acute disseminated encephalomyelitis and be important in considering the relationship between multiple sclerosis and acute disseminated encephalomyelitis.

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